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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,565	09/29/2003	Yoichi Kodama	1034232-000025	4272

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EXAMINER

HAIDER, SAIRA BANO

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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11/28/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/671,565

Applicant(s)

KODAMA ET AL.

Examiner

Saira Haider

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The rejections have been altered to reflect the amended claims.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1, 3, 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaya et al. in view of Matsuura et al. (US 5,508,357), and in further view of Arai et al. (US 6,054,509).
4. Yamaya discloses thermosetting resin compositions comprising a polyimide and a bismaleimide, wherein the resins exhibit excellent heat resistance properties. Specifically, Yamaya discloses the claimed bismaleimide with the meta-position substitution (Formula (III)) and the claimed polyimide (Formula (I) (col.2, lines 44-69; col. 4, lines 60-61, Table 1 (Examples 9-17)).
5. Yamaya fails to disclose that the thermosetting resin composition is present in a laminate composite comprising a metal foil layer and a polyimide layer, as claimed. However, Yamaya discloses that the thermosetting resin compositions are excellent in adhesion, formability, moldability, flexibility and heat resistance. Further, the resin compositions have numerous applications including as adhesives, laminates and molding materials in electrical and electronic equipment and apparatus (col. 6, lines 14-20). Attention is directed towards the Matsuura reference.
6. Matsuura teaches similar polyimide/bismaleimide thermosetting compositions, where the materials are applied to metal foils and as adhesives between polyimide films and metal foils (col. 11 lines 51-62; col. 12 lines 34-63). The articles are formed to provide substrates for flexible printed circuit boards or TAB tapes. It is the examiner's position that it would have been prima facie obvious to use the polyimide/bismaleimide compositions of Yamaya's invention applied to metal foils or between polyimide films and metal foils to form substrates for flexible printed circuit boards

or TAB tapes having Yamaya's improved toughness, flexibility, adhesion, and heat resistance properties. The position is supported by the fact that the resin of Yamaya is exemplified as capable of bonding to steel sheets (col. 7, line 31 to col. 8, line 2).

7. Regarding the limitations drawn to the polyimide, Yamaya teaches polyimides fitting the claimed formulas (1) and (4) (col. 1 line 54-col. 2 line 30; examples).

8. In reference to the newly added limitation regarding the metal foils, Matsuura discloses copper foil and aluminum foil as suitable metal foils; however, Matsuura fails to disclose rolled copper foil or electrolytic copper foil as suitable. Thus attention is directed towards the Arai reference, which discloses that the metal foil of flexible printed circuit boards can be selected from a variety of metal foils including electrolytic copper foils, rolled copper foils, and aluminum foils. Wherein the electrolytic and rolled copper foils are most widely employed as metal foils in respect of their good flexibility and high electric conductivity (col. 4, lines 22-33). Therefore, given that the electrolytic copper foils and rolled copper foils are advantageous over aluminum foils, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize either electrolytic copper foils or rolled copper foils as the metal foil in the invention taught by the combination of Yamaya and Matsuura.

9. In reference to the claim 7, Arai discloses that the thickness of the metal foil is usually 18 to 70 μm (col. 4, lines 22-33). It would have been obvious to use the either electrolytic copper foils and rolled copper foils in the thickness specified by Arai in order to fully embody the invention taught by the combination of Yamaya, Matsuura, and Arai.

10. In reference to the newly added limitation regarding the metal laminate is used as a based material for a chip-on-film or flexible substrate, the combination of references teaches this limitation. Specifically, the examiner has stated in the rejection above, that it would have been prima

facie obvious to use the polyimide/bismaleimide compositions of Yamaya's invention applied to metal foils or between polyimide films and metal foils to form substrates for flexible printed circuit boards or TAB tapes having Yamaya's improved properties.

Response to Arguments

11. In response to applicants' arguments against the Yamaya reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

12. In response to applicants' argument that Yamaya fails to recognize the importance of the defined bismaleimide compound with the recited substitution position, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

13. In response to applicants' argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there are sufficient teachings provided by both references for the combination, firstly, Yamaya teaches that the resin is suitable for use in electrical equipment, and Matsuura teaches a particular type of adhesive requiring laminate for use in electrical equipment. Further, Yamaya provides motivation for

the combination given the various advantageous properties of the resin. Thus, it is clear that the prior art provides sufficient motivation for the combination.

14. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., improved solder heat resistance and pinhole resistance) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicants have further argued that these advantages must be considered, applicants have offered *Preemption Devices, Inc. v. Minnesota Mining and Manufacturing Company* in support of their position. The facts in the case law cited by applicants are not "sufficiently similar" to applicant's application. The issue at hand in the cited case law was nonobviousness based on commercial success. Conversely, applicants' have failed to argue nonobviousness based on commercial success nor have applicants provided data in support of any such allegation of commercial success.

Declaration under 37 CFR § 1.132

15. The examiner has reconsidered the declaration under 37 CFR 1.132 filed 2/15/2007 in view of the amended claims. The declaration remains insufficient to overcome the herein rejection of claims 1, 3, 4 and 7 because it fails to establish that it would not have been obvious to utilize the resin of Yamaya in the laminate composite taught by Matsuura.

Conclusion

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

17. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Application/Control Number:
10/671,565
Art Unit: 1796

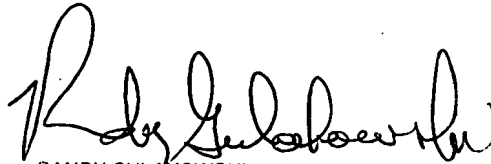
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saira Haider whose telephone number is (571) 272-3553. The examiner can normally be reached on Monday-Friday from 10am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Saira Haider
Examiner
Art Unit 1796


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